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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/504,782	02/15/2000	Masahiro Kume	0819-337	8307

22204 7590 05/05/2006

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EXAMINER	
FLORES RUIZ, DELMA R	
ART UNIT	**PAPER NUMBER**
2828	

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/504,782	KUME ET AL.	
	Examiner	Art Unit	
	Delma R. Flores Ruiz	2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) *7-16, 19-23 and 26 - 30* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-6,17,18,24 and 25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

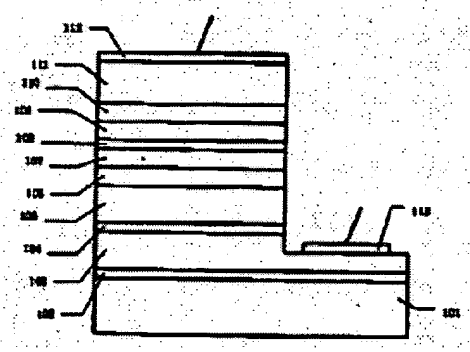
> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 – 2, 4 – 6, 17 – 18, and 24 – 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Kimura Akitaka, et. al. (JP11008437).

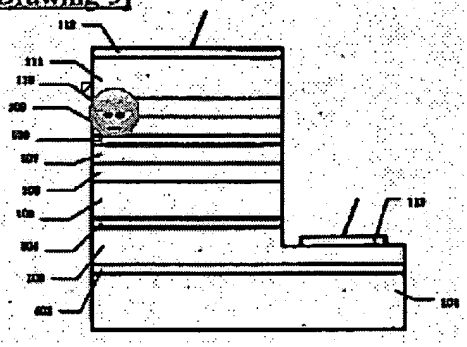
Regarding claims 1 and 17, Kimura discloses in Figure 1, Embodiment of the Invention, Paragraphs [0020 - 0022]); a semiconductor laser device comprising; a contact layer (see Fig. 1 Character 103), which is mode of a nitride semiconductor of a first conductivity type and is formed over a substrate (see Fig. 1, Character 101); a first cladding (see Fig. 1, Character 105) layer, which is made of n type nitride semiconductor of a first conductivity type (see Fig. 1, Character 104) and is formed over a substrate (see Fig. 1, Character 101); an active layer (see Fig. 1, Character 107), which is made of $In_y Ga_{1-y}N$ and is formed over the first cladding layer (see Fig. 1, Character 105), and a second cladding layer (see Fig. 1, Character 110), which is made

of p type nitride semiconductor of a second conductivity type and is formed over the active layer (see Fig. 1, Character 107) and a $In_y Ga_{1-y}N$ layer of the first conductivity type, is formed between the contact layer (see Fig. 1, Character 103) and the first cladding layer (see Fig. 1, Character 105), wherein $0 < x < 1$, $0 < y < 1$ and $x \geq y$ in the composition of In.

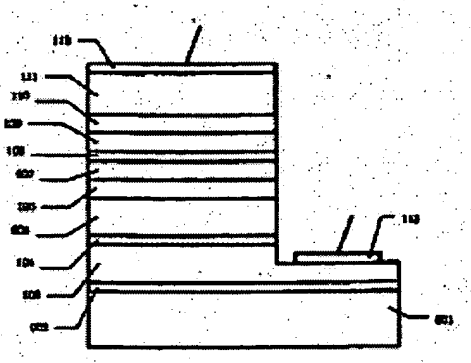
[Drawing 1]



[Drawing 5]



[Drawing 6]



Regarding claim 2, Kimura discloses in Figure 1, Embodiment of the Invention, Paragraphs [0020 - 0022]), wherein the $In_xGa_{1-x}N$ layer (see Fig. 1, Character 104), is

formed in contact (see Fig. 1, Character 103) with the first cladding layer (see Fig. 1, Character 105).

Regarding claims 4 and 18, Kimura discloses in Figure 1, Embodiment of the Invention, Paragraphs [0020 - 0022]), a first cladding (see Fig. 1, Character 105) layer, which is made of n type nitride semiconductor of a first conductivity type (see Fig. 1, Character 104) and is formed over a substrate (see Fig. 1, Character 101); an active layer (see Fig. 1, Character 107), which is made of $In_y Ga_{1-y}N$ and is formed over the first cladding layer (see Fig. 1, Character 105), and a second cladding layer (see Fig. 1, Character 110), which is made of p type nitride semiconductor of a second conductivity type and is formed over the active layer (see Fig. 1, Character 107); an electrode (see Fig. 1, Character 112) formed over the second cladding layer (see Fig. 1, Character 110); an $In_xGa_{1-x}N$ layer (111) of the second conductivity type is formed between the second cladding (see Fig. 1, Character 110) and the electrode (see Fig. Character 112) wherein $0 < x < 1$, $0 \leq y < 1$ and $x \geq y$ in the composition of In.

Regarding claims 5 and 6, Kimura discloses in Figure 1, Embodiment of the Invention, Paragraphs [0020 – 0022]), $In_y Ga_{1-y}N$ layer (111) is formed in contact with second cladding layer (see Fig. 1, Character 110) and electrode (see Fig. 1, Character 112).

Regarding claim 24 Kimura discloses in Figure 1, Embodiment of the Invention, Paragraphs [0020 - 0022]), optical integrated unit comprising a semiconductor laser device comprising; a contact layer (see Fig. 1 Character 103), which is mode of a nitride semiconductor of a first conductivity type and is formed over a substrate (see Fig. 1, Character 101); a first cladding (see Fig. 1, Character 105) layer, which is made of n type nitride semiconductor of a first conductivity type (see Fig. 1, Character 104) and is formed over a substrate (see Fig. 1, Character 101); an active layer (see Fig. 1, Character 107), which is made of $In_y Ga_{1-y}N$ and is formed over the first cladding layer (see Fig. 1, Character 105), and a second cladding layer (see Fig. 1, Character 110), which is made of p type nitride semiconductor of a second conductivity type and is formed over the active layer (see Fig. 1, Character 107) and a $In_y Ga_{1-y}N$ layer of the first conductivity type, is formed between the contact layer (see Fig. 1, Character 103) and the first cladding layer (see Fig. 1, Character 105), wherein $0 < x < 1$, $0 < y < 1$ and $x \geq y$ in the composition of In..

Regarding claim 25, Kimura discloses in Figure 1, Embodiment of the Invention, Paragraphs [0020 - 0022]) optical integrated unit comprising a semiconductor laser device comprising a first cladding (see Fig. 1, Character 105) layer, which is made of n type nitride semiconductor of a first conductivity type (see Fig. 1, Character 104) and is formed over a substrate (see Fig. 1, Character 101); an active layer (see Fig. 1, Character 107), which is made of $In_y Ga_{1-y}N$ and is formed over the first cladding layer

(see Fig. 1, Character 105), and a second cladding layer (see Fig. 1, Character 110), which is made of p type nitride semiconductor of a second conductivity type and is formed over the active layer (see Fig. 1, Character 107); an electrode (see Fig. 1, Character 112) formed over the second cladding layer (see Fig. 1, Character 110); an $In_xGa_{1-x}N$ layer (see Fig. 1, Character 111) of the second conductivity type is formed between the second cladding (see Fig. 1, Character 110) and the electrode (see Fig. Character 112) wherein $0 < x < 1$, $0 < y < 1$ and $x \geq y$ in the composition of In.

Response to Amendment

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., actually describe an ***undoped*** InGaN layer 202, Kimura et al document is undoped, Kimura does not teach or suggest the claimed first conductivity type InGaN layer) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues the prior art lacks: the InGaN layer of the first conductivity type is formed between the contact layer and the first cladding layer. The examiner disagree with the applicant arguments since the prior art does teach the InGaN layer of the first

conductivity type (see Fig. 1, Character 104) is formed between the contact layer (see Fig. 1, Character 103) and the first cladding layer (see Fig. 1, Character 105) and Embodiment of the Invention, Paragraphs [0020 - 0022]) as stated in the rejection above.

Applicant argues the prior art lacks: a second conductivity type $In_xGa_{1-x}N$ layer contact layer. The examiner disagree with the applicant arguments since the prior art does teach a second conductivity type $In_xGa_{1-x}N$ layer contact layer (see Fig. 1, Character 111, and Embodiment of the Invention, Paragraphs [0020 - 0022]) as stated in the rejection above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Delma R. Flores Ruiz whose telephone number is (571) 272-1940. The examiner can normally be reached on M - F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Min Sun Harvey can be reached on (571) -272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Delma R. Flores Ruiz
Examiner
Art Unit 2828
DRFR/MH
April 27, 2006

Min Sun Harvey
Supervisor Patent Examiner
Art Unit 2828